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Features of the toxic action of 2,4,6-trinitrotoluene on Escherichia coli K12

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Abstract

2,4,6-Trinitrotoluene present in a culture of Escherichia coli K12, at a concentration of 200 mg/l, caused a decrease in the total cell population and the population of colony-forming units, increased permeability of the external lipoprotein envelope, and increased the refractive index of cells. The shape of some cells changed from rod-like to coccoid, and cell size decreased. The specific rate of glucose consumption and the content of NADH (NADPH) in cells decreased. The changes of these morphological and physiological features were reversible, tending to normalize after reduction of 2,4,6-trinitrotoluene concentration in the course of cultivation. © 2007 Pleiades Publishing, Inc.

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